



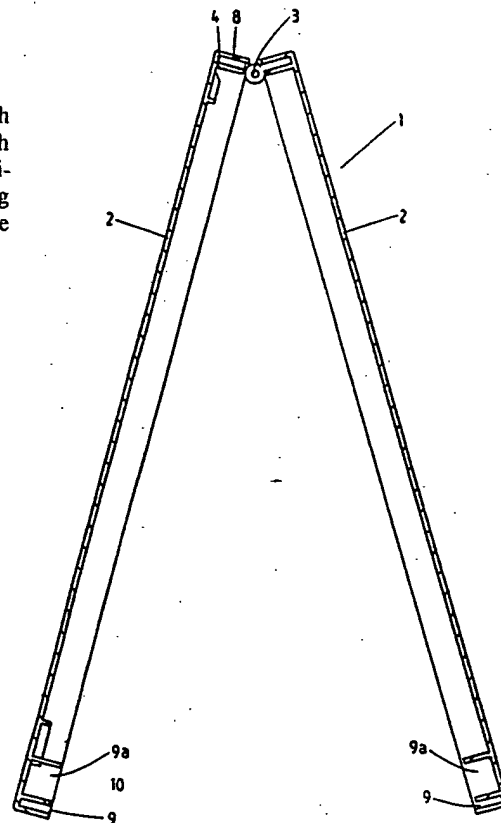
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(54) Title: PORTABLE SIGN

(57) Abstract

A portable sign (1) which has a pair of panels (2) hinged to each other. The panels (2) are formed of relatively rigid plastics material, with support members depending from the panels (2). Weights (10) are positioned in (9a) each of the support members to assist in stably positioning the sign (1). The hinge (3) can be clipped into recesses (4) of a respective one of the panels (2).



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PORTABLE SIGN

This invention relates to a sign, more particularly to a portable sign which can be readily handled and placed in position as desired.

BACKGROUND OF THE INVENTION.

- 5 Portable signs are often used, for example, by shop-keepers where they are placed on the footpath in front of their store, and by estate agents to direct potential customers to premises which are for sale. Most of these signs are constructed from wood which makes them relatively heavy and they are also prone to deterioration due to exposure to the elements. Metal signs are also
10 known, but again these are heavy to handle, particularly by estate agents where the signs have to be folded and placed in the boot or trunk of a vehicle.

Patent AU 8933222 describes a road sign having a cross bar with legs pivoted to the cross bar so that the sign can be folded. Different road signs can be fitted to the cross bar member.

- 15 US 4248001 also discloses a road traffic sign having pivoted legs, the legs being retained in position by elastic ties so that the sign can pivot under the forces of wind without the necessity of providing ballast in the legs.

Also US 4038769 is directed to a portable sign having pivoted legs for swinging about a horizontal axis.

- 20 Thus it is an object of this invention which will overcome one or more of the deficiencies in the prior art signs.

A further object of the invention is to provide a sign which is not limited to one use, but can be adapted to a variety of uses.

- 25 A still further object of the invention is to provide a sign which is durable, light in weight, and yet is weighted to be stable in its erected position.

BRIEF STATEMENT OF THE INVENTION.

There is provided according to the invention a portable sign comprising a pair of panels hinged to each other along their adjacent edges, characterised in that each panel is formed of a relatively rigid plastics material, a pair of support

5 members spaced from each other on each panel along an edge opposite to the edge having the hinges, and weights positioned in each of the said support members to assist in stably positioning the sign when in the erected position with the panels spread with the support members in contact with the surface on which the sign is positioned.

10 According to a further aspect of the invention there is provided a portable sign, the sign comprising two leaves hinged together so that the leaves may be folded so that they are adjacent each other in the folded position for handling and transport, or may be hinged so that the leaves are at an angle to each other in the position for use of the sign, said hinge means being clipped into recesses in the

15 leaves, and means for holding the leaves in the angled position.

BRIEF DESCRIPTION OF THE DRAWINGS.

In order to more fully describe the invention reference will now be made to the accompanying drawings in which:-

20

FIG. 1 is a cross sectional view of one form of the sign in the open position,

FIG. 2 is a partial cross-sectional view of a further form of the invention,

FIGS. 3 (a) and (b) is a still further example of the invention,

25

FIG. 4 illustrates the male and female hinges for adding further leaves to the sign to increase the height thereof,

FIG. 5 illustrates a still further form of the invention,

3

FIG. 6 illustrates a form of hinge which can be used,

FIG. 7 shows a still further form of the invention,

FIG. 8 is a diagrammatic perspective view of another form of the invention,

5

FIG. 9 is a side view of a side panel of a still further form of the invention,

FIG. 10 shows the hinge arrangement of FIG. 8, and

FIG. 11 illustrates a still further form of the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS.

- 10 Referring firstly to FIG. 1 of the drawings, the sign 1 comprises a pair of leaves 2 joined by a hinge 3 positioned at each end of the leaves. Each leaf is preferably formed or moulded of a suitable plastics material, suitable for use in outdoor positions and thus is desirably UV resistant. Each leaf is moulded with a notched recess 4 within which the hinge 3 is clipped. As shown in FIG. 6 each hinge 3 has
- 15 a pair of wings 5 having a pair of spaced lugs 6 through which a pivot pin passes to join the wings to form the hinge. Also each wing 5 has an upstanding tapered catch 7 to engage in a corresponding notch 8 in the recess 4, so that when the wings 5 are inserted into the corresponding recess 4 the catch engages in the notch to securely retain the hinge in position. The hinge has upstanding lumps
- 20 6(a) so that the hinge has limited movement so preventing the sign from opening beyond the desired amount.

Each leaf 2 has a further recess 9 at the lower end and also a larger recess 9(a) adjacent the recess 8. Each recess 9(a) is adapted to receive a lead weight 10 which provide sufficient weight and stability to the sign when erected and in use.

- 25 FIG. 2 illustrates a further form of the invention where the leaves 2 are joined by what may be termed an external hinge 11. The hinge 11 has two wings 12 which

have at their ends a hook 13 having a portion 14 to engage in the recess 4 of each leaf, the portion and the recess having the interengaging catch and recess as above described. In this instance the leaves can be folded flat against each other by rotating as indicated. The leaves cannot collapse against each other due to the interference of the two hooks 13 as illustrated.

The sign as above described can also be modified to become a larger sign of greater height. Thus as illustrated in FIGS. 3 and 4, to the lower end of each leaf 2 further leaves 2(a) can be attached by a hinge 15 which as shown in FIG. 4 has two parts, a male part 16 and a female part 17. The hinge has portions 18 and 19 which are clipped into recess 9 of the lower edge of leaf 2 and the upper recess 4 of the lower leaf 2(a) so that the two leaves are joined together.

The hinge 15 has a pair of hooks 20 onto which a stay 21 is attached so that the spacing of the two is fixed so that the leaves cannot collapse either to or from each other. When it is desired to fold up the sign the stay is removed and the two lower leaves are folded outwardly and upwardly so that the outer faces of the leaves 2 and 2(a) of each side lie against each other, and the leaves 2 are then folded towards each other. One or both of the leaves has a clip or the like so that the stay when removed can be clipped onto the clips so that the stay is always available for use whenever required. Thus the stay strengthens the signs and can be used on both signs, the smaller one previously described or as shown the larger sign. This stay can be moulded from a suitable plastics material, and if desired can be made to have a bright or iridescent colour adding to the safety of the sign.

Turning now to FIG. 5 there is shown a further form of the invention wherein the sign is formed from a plurality of open frames. The frames 23 are hinged to each other in a manner as above described, and the lower frames 24 hinged to the upper frames 23. The sign is stabilised by the stays similar to the stay above described. The sign is provided with a plurality of facing channels 25 so that sheet material (not shown) bearing the information to be displayed can be inserted in the channels. This sheet material would then assist in strengthening the frames.

In a preferred form of the invention this sheet material can be a corrugated sheet material having planar sides such as that sold by the name "corflute" and the display material can be on both sides so that the display can be changed by simply reversing the sheet material. If desired the channels 25 can be dimensioned so that two, three or more sheets can be positioned in the channels. In this way a large variety of different displays can be available merely by selecting the desired sheet and placing it outermost in the channels.

There is proposed a further embodiment shown in FIG. 7 in which the open frames 23 and 24 are provided with strengthening members 26 extending diagonally across each frame from corner to corner. These members will stiffen and strengthen the frames and provide support for the panels of corflute or other material inserted into the channels. The frames will be moulded from a suitable plastics material and the provision of the cross members, as well as providing stability and rigidity to the final produce, also reduces the in-built moulding stresses and distributes these stresses so that distortion is less likely to occur. In the sake of clarity, only one frame with cross members has been shown.

Referring to FIG. 8 of the drawings the sign 31 consists of two side panels 32 and 33. Each of these side panels 32 and 33 are identical and so only one of these will be described in detail. Each side panel is made from ABS plastics material and is formed in a die, and has a front panel face 34 with a surrounding flange 35 extending away from the front face 34. On the rear side 36 of the side panel there are provided strengthening ribs 37 which extend from the centre of the rear side 36 to the corners of the panel. These ribs while being strengthening ribs also act as runners during the injection of the material, and so the thickness of the panel can be kept to a minimum.

Each panel is provided with members 38 along one edge, in this embodiment being along the bottom edge to thus form feet. In the area of the feet on the rear side of the panel, there are provided heavy weights, such as lead weights 39. In the flange across each foot there are two holes, the lead weight being cast with a small spigot to engage one hole and a PK screw is passed through the other hole to engage a hole in the lead weight to fasten the lead weight in the foot. In this way it will be seen that there is provided a relatively light weight sign but with

added weight in the four corners of the lowest portion of the sign. This provides great stability to the sign due to the very low centre of gravity of the sign.

The panels 32 and 33 can be hinged to each other in at least two different ways. As shown in FIGS. 8 and 10 the hinge 40 has two wings 41 each of which has an
5 intumed flange 42 which is thus bolted to the flange 35 of the respective panel. This sign is particularly suitable for use as by estate agents where the face 34 has the advertising matter thereon, and to protect this information the panels can be folded so that the two faces 34 are adjacent each other. In this way the faces 34
10 34 may be prevented from contacting each other by the provision of one or more small dimples 43 adjacent the area of the feet

FIG. 11 shows a further form of the invention in which the panels 32 and 33 are hinged together by a conventional form of hinge 44 which is bolted to the inside
15 of the flange 35 of the respective panels. To fold the sign of FIG. 11 the rear faces are thus moved to be in contact with each other.

If desired the panels can be prevented from spreading too far by the provision of a chain or the like (not shown) extending from a hole 45 in the flange 35 between
20 the feet 38, but with the arrangement as shown in FIG. 11 the hinge position can be such that the abutting edges of the flanges 35 will prevent the spreading of the side panels of the sign.

If a larger sign is required, each side of the sign can be formed of two panels 46 and 47 bolted to each other as shown in FIG. 9. In this way the feet 38 of the
25 upper panel 47 are positioned at the top of the side of the sign. The two sides of the sign are joined by hinges attached to the hole through the feet which holes would normally be used for the weights if that panel were used as the lower panel. The form of hinge can be of either of the above two described hinges. Where a large sign is constructed, the weights for attachment in the feet can be of
larger size to thus provide adequate stability of the sign.

Also with the present invention, there may be provided a wire frame to be hung,
30 clipped or otherwise supported on the sign on one or both panels or frames.

Preferably the wire frame can be supported in the channels or recesses that support the corrugate sheets and the wire frame can be used to support sheets of paper or like material in the form of paper posters, newspaper headlines and the like.

- 5 As noted previously the hinges can be of differing types, and preferably the hinge 15 for joining the panels are provided in recesses in the edges of the panels so that the hinges do not protrude from the surface of the panels and the two panels which are so hinged together present a smooth outer surface. However in the alternate construction a piano type hinge could be used if desired.
- 10 If it is desired to join a plurality of signs together end to end, then there is provided a hook or clip on generally U-shape which is positioned over the adjacent stays 21 of adjacent signs. In this way the signs while being securely joined together can be readily separated if and when desired.

- 15 While the sign has been designed to rest on the ground or other surface, it is also within the concept of the invention to mount the sign on a pole or other elevated structure. Thus the sign can be provided with a supporting frame so that it can be attached to a pole or the like.

- 20 Thus it will be seen that with the present invention the sign can be assembled without the need for nuts and bolts merely by clipping the hinges into the leaves of the sign. As described there are two forms of hinges for the hanging of the panels, the internal hinge and the external hinge, and the larger sign can easily fold into a stack of 4.

- 25 If desired the channels can be added to the sign having the solid leaves so that the display information can be placed on the leaves and and/or onto the sheets inserted into the channels. As noted above there is a further hinge to allow the folding of the larger sign.

The lead weights to give stability to the sign are preferably covered with polyethylene to add to the appearance of the sign and to prevent any contamination by the lead material itself. The sign and the sheet material can be

used for any desired type and style of displaying the information, the sides being for example used as a white board, a black board, silk screened, painted or being able to receive vinyl cut out letters or other shapes as desired. It is noted that the solid form of the leaves gives support to the corflute, and also the solid form gives
5 support to flexible sheets such as paper. Additionally, the paper sheets can be covered by a sheet of clear material such as an acrylic resin for example Perspex. Also polycarbonate sheets may be used.

In order to prevent the folded sign from rattling and to hold the sign in the folded condition there can be provided an elastic ring attached to the sign to pass over
10 and around a portion of the sign in the folded position to hold the leaves in secured relationship. The sign can also incorporate other articles to be attached or clipped to the sign such as a document holder for give-away promotional material.

Although various forms of the invention has been described in some detail the
15 invention is not to be limited thereto but can include variations and modifications falling within the spirit and scope of the invention.

CLAIMS

1. A portable sign comprising a pair of panels hinged to each other along a pair of their adjacent edges, characterised in that each panel is formed of a relatively rigid plastics material, a pair of support members spaced from each other along the edge opposite the edge having the hinges, and weights positioned in each of said support members to assist in stably positioning the sign when in the erected position with the panels being spread with the support members in contact with the surface on which the sign is positioned.
2. A portable sign comprising two leaves hinged together so that the leaves may be folded so that they are adjacent each other in the folded position for handling and transport, or may be hinged so that the leaves are at an angle to each other in the position for use of the sign, hinge means for joining the leaves together, said hinge means being clipped into recesses in the leaves, and means for holding the leaves in the angled position.
3. A portable sign as defined in claim 2 characterised in that the hinge means comprise a pair of mating members each to be clipped to its corresponding recess in the respective leaf, said mating members having engaging means to prevent undue opening of the leaves with the leaves pivoting to spread the adjacent faces of the leaves to the spread position.
4. A portable sign as defined in claim 2 characterised in that the hinge means each have an extended arm from the means to clip into the respective recesses to the co-operating pivot portions so that the hinge extends externally of the adjacent leaves, with the leaves being pivotal to bring the sign faces adjacent each other for handling and transport purposes.
5. A portable sign as defined in claim 2 further comprising a further pair of leaves pivoted to the lower ends of said first defined leaves, whereby said leaves may be folded in concertina fashion.

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6. A portable sign as defined in claim 2 or 5 characterised by a strut releasably clipped to the respective leaves to stabilise the sign.

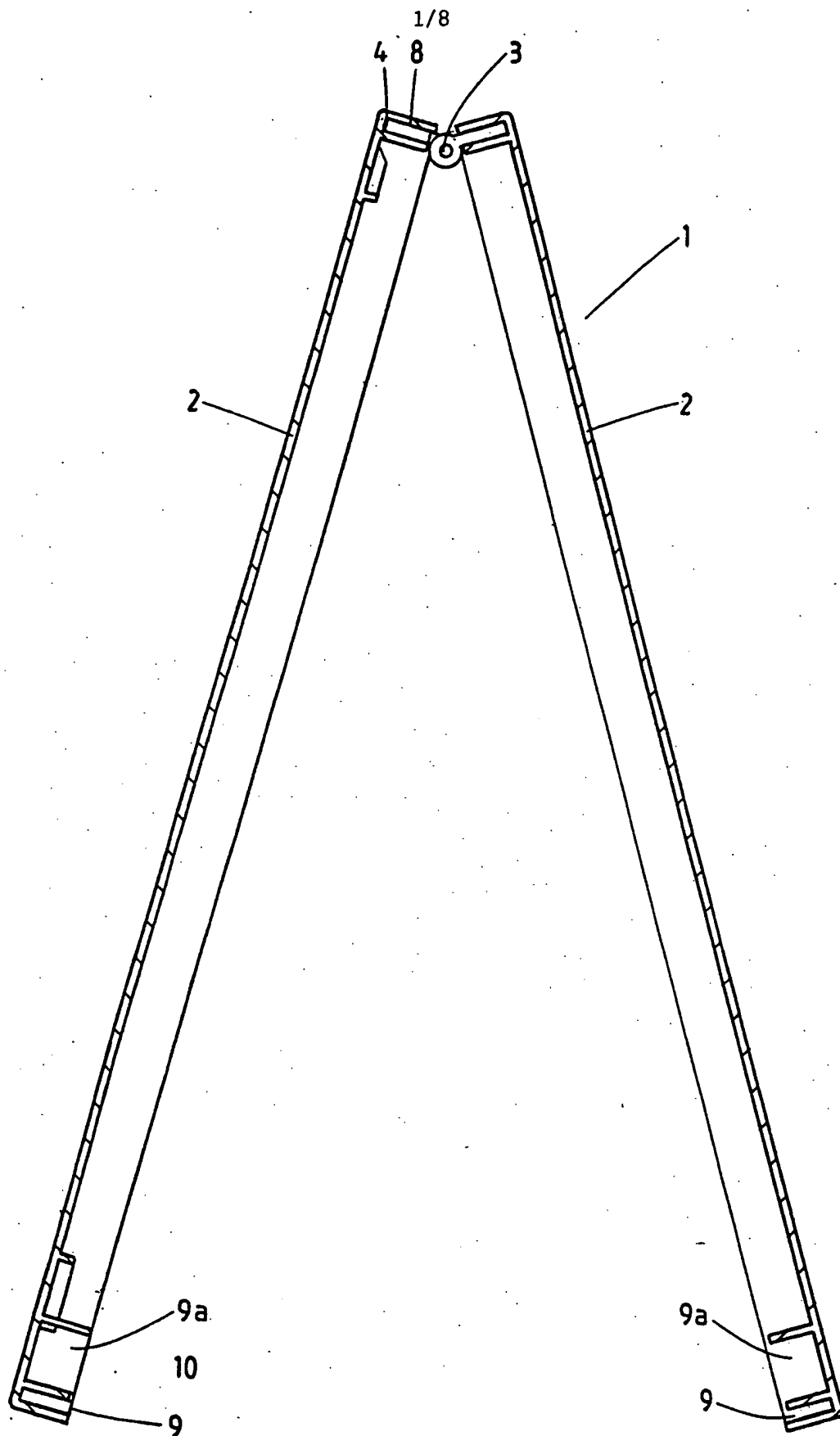
7. A portable sign as defined in claim 2 wherein each leaf is a solid panel.

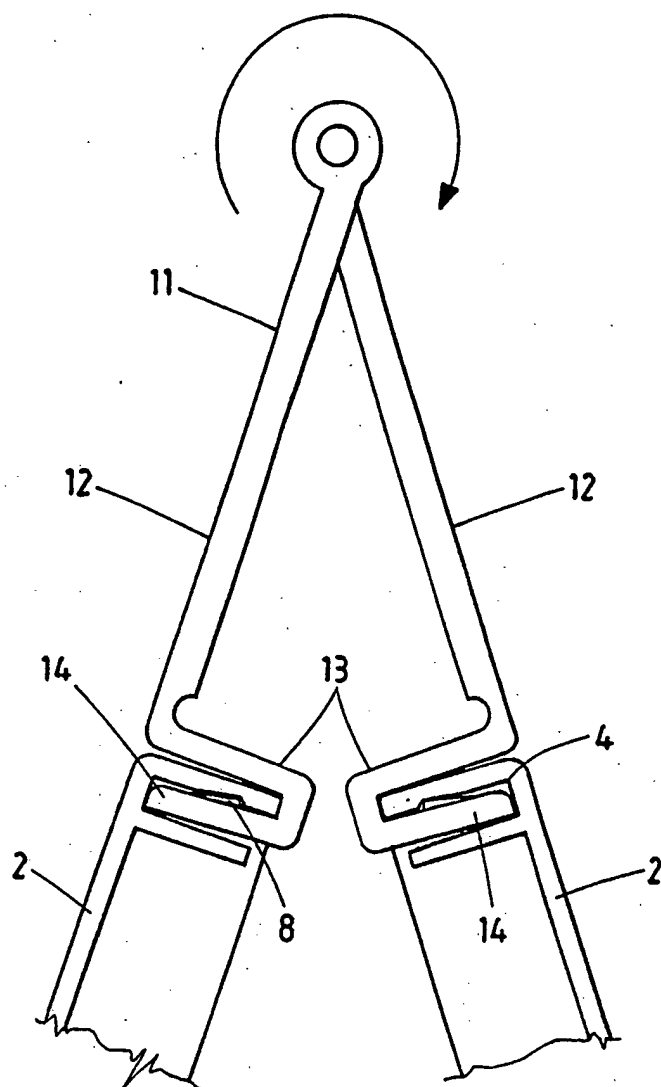
8. A portable sign as defined in claim 2 wherein each leaf is an open frame,
5 holding means being provided to retain signage material on each frame.

9. A portable sign as defined in claim 8 wherein each open frame is cross braced.

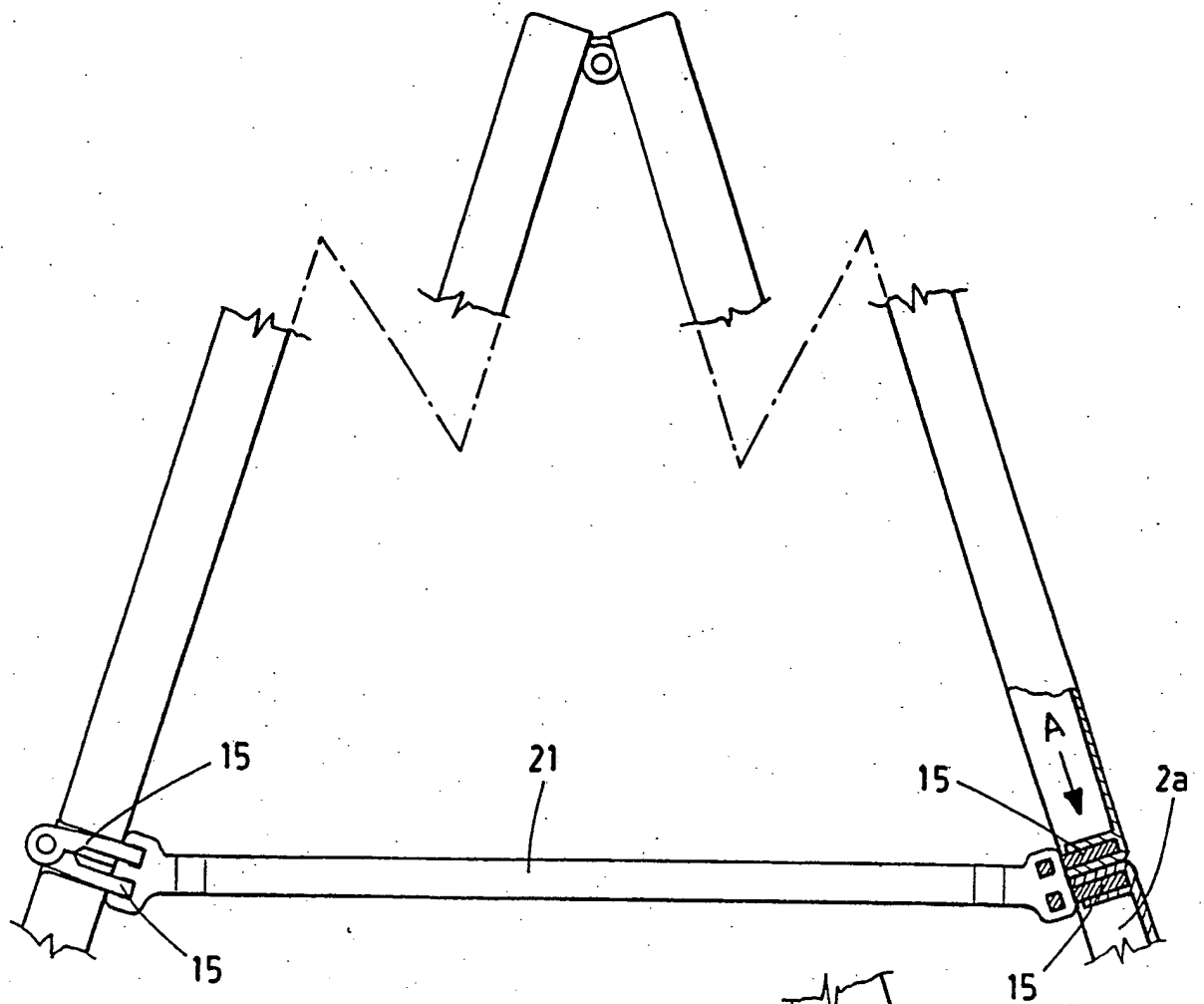
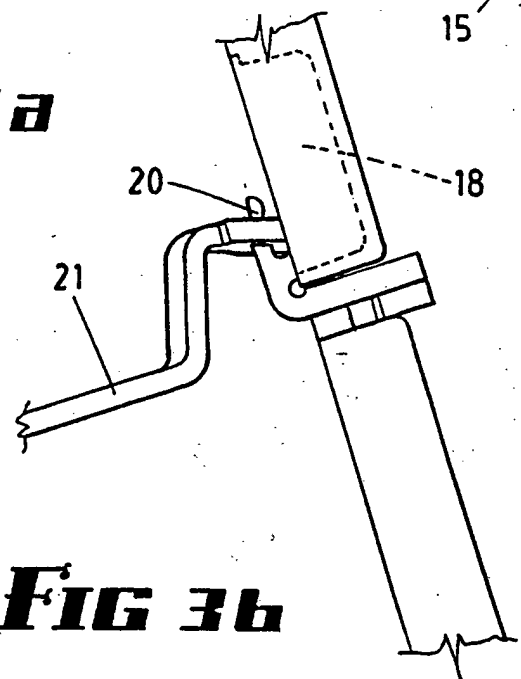
10. A portable sign substantially as herein before described with reference to the accompanying drawings.

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**FIG 1**

**FIG 2**

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**FIG 3a****FIG 3b**

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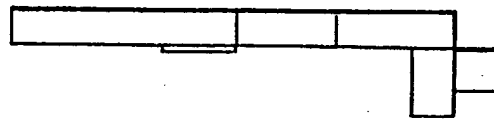
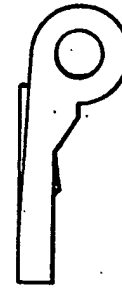
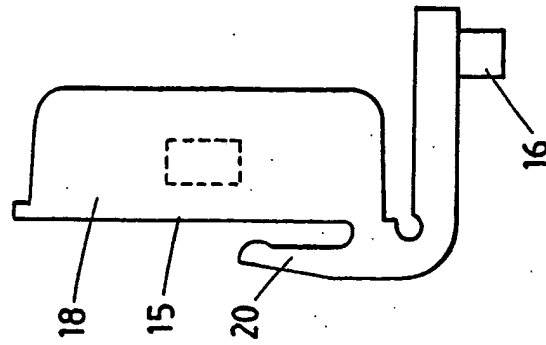
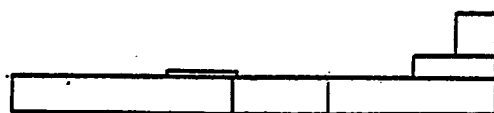
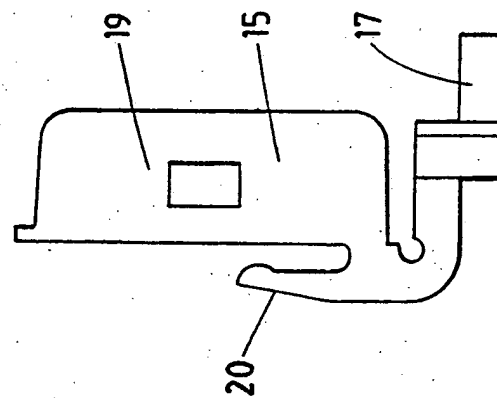
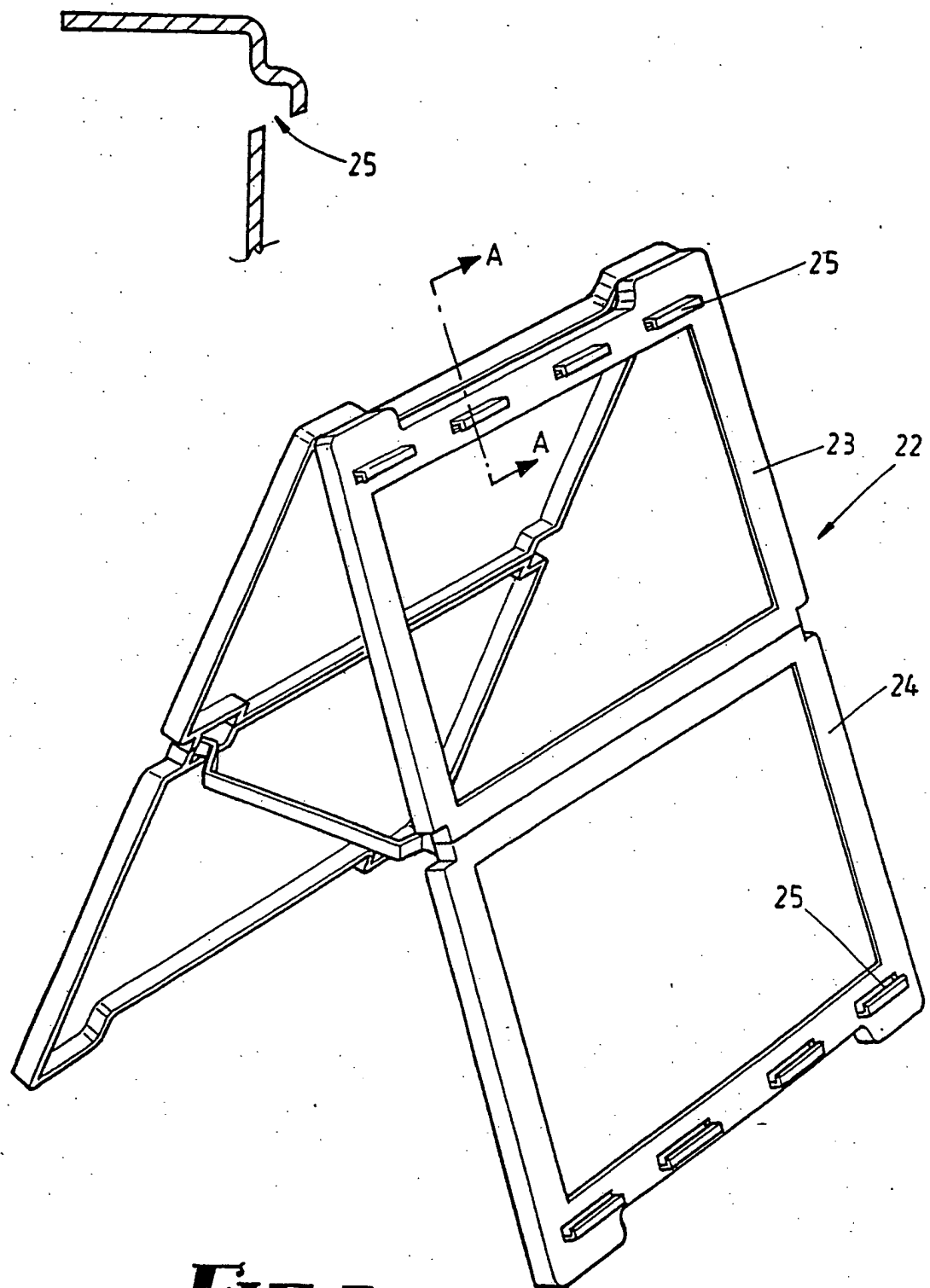
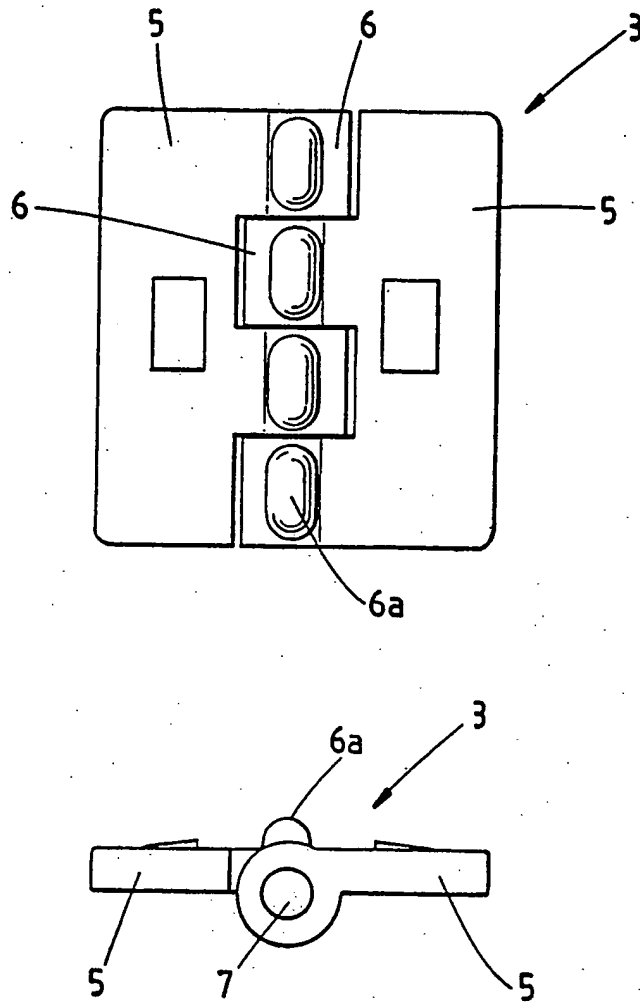


FIG 4



**FIG 5**

**FIG 6**

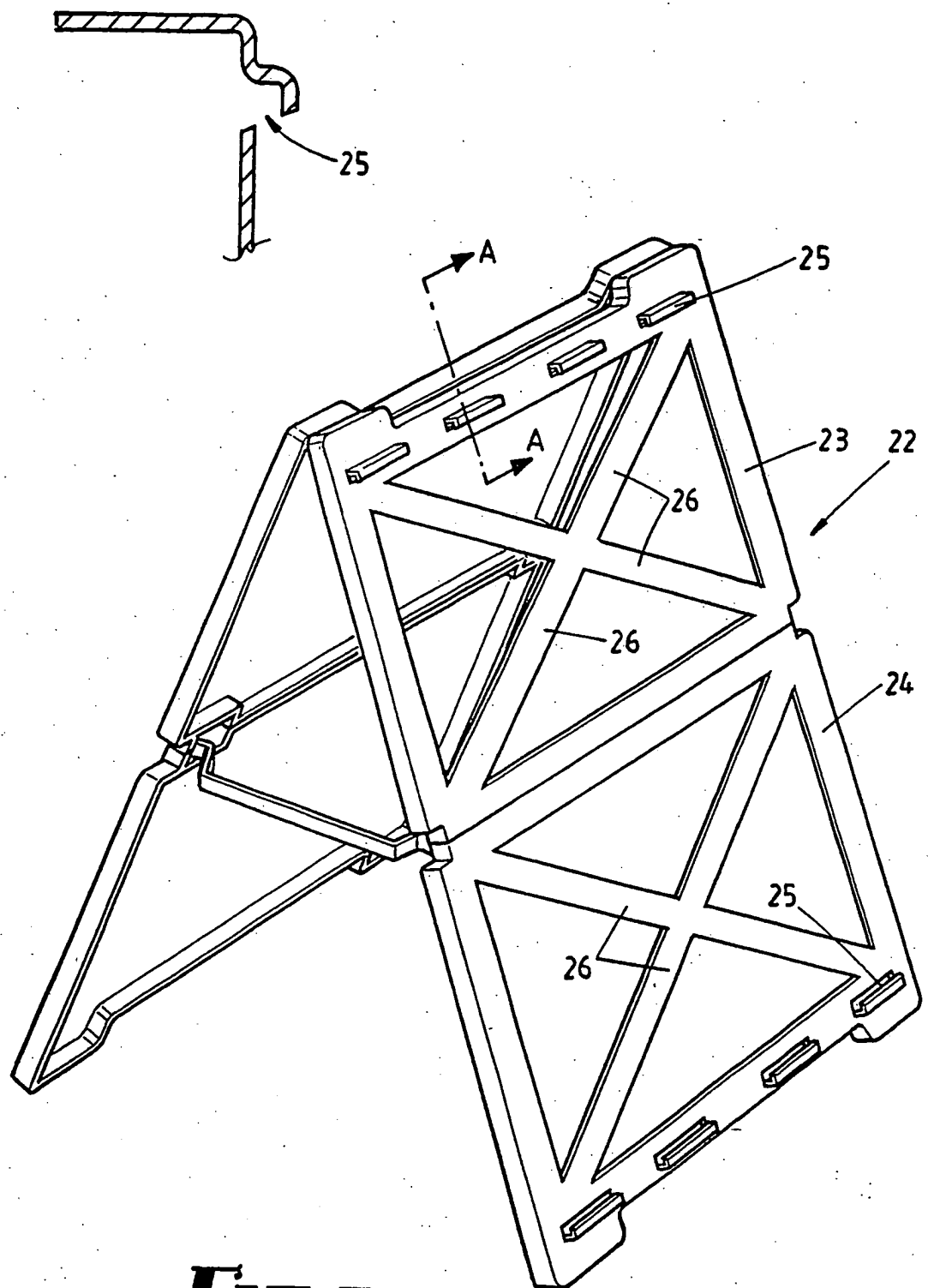


FIG 7

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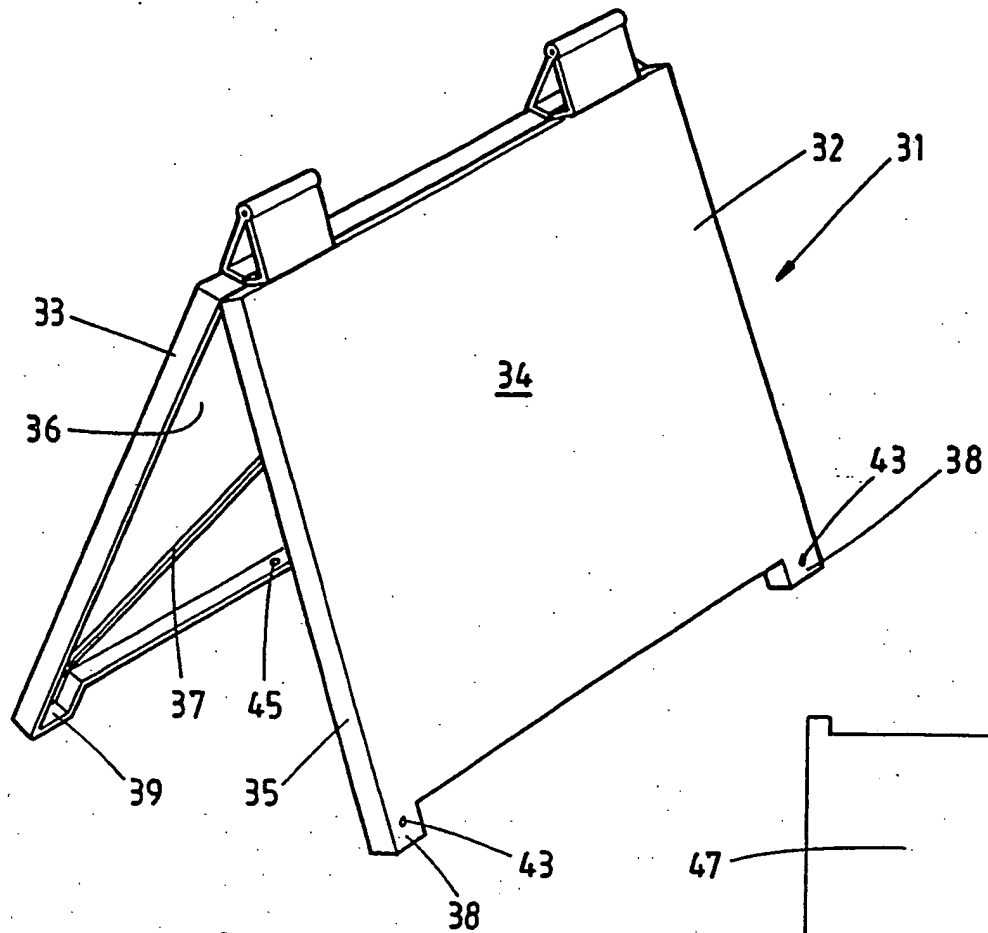


FIG 8

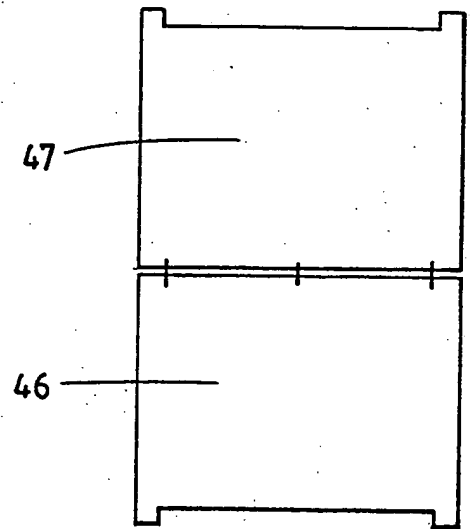


FIG 9

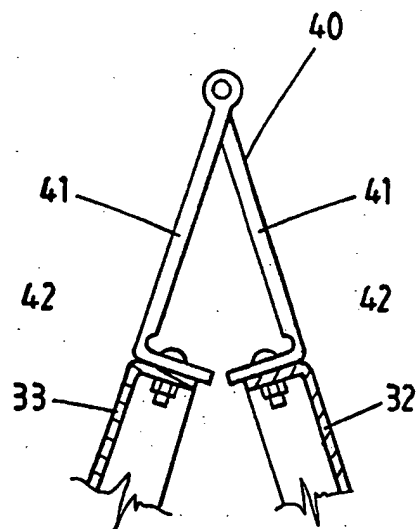


FIG 10

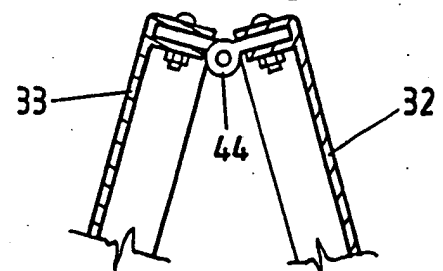


FIG 11

INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU93/00002

A. CLASSIFICATION OF SUBJECT MATTERInt. Cl.⁵ G09F 7/00, 15/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC⁵ : G09F 7/00, 15/00Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
AU : IPC as above

Electronic data base consulted during the international search (name of data base, and where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to Claim No.
X Y	US,A, 4999937 (BECHTOLD) 19 March 1991 (19.03.91)	1 2-10
X Y	US,A, 4928415 (WALTERS) 29 May 1990 (29.05.90)	1 2-10
X Y	US,A, 4253260 (MAZA et al.) 3 March 1981 (03.03.81)	1 2-10
X Y	GB,A, 2143068 (RUBBERMAID COMMERCIAL PRODUCTS INC.) 30 January 1985 (30.01.85)	1 2-10

☒ Further documents are listed
in the continuation of Box C.☒ See patent family annex.

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Date of the actual completion of the international search
13 April 1993 (13.04.93)Date of mailing of the international search report
19 APR 1993 (19.4.93)

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU93/00002

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate of the relevant passages	Relevant to Claim No.
A	US,A, 2961786 (LOWMASTER) 29 November 1960 (29.11.60)	
A	US,A, 2267529 (LEECH) 23 December 1941 (23.12.41)	
A	AU,A, 43501/89 (ASHLAR SCREENPRINTS PTY LTD) 26 April 1990 (26.04.90)	

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No
PCT/AU93/00002

This Annex lists the known "A" publication level patent family members relating to the patent document cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member					
GB	2143068	AU	28828/84	DK	3300/84	FR	2548705
		IT	1174227	JP	60015676	NL	8402139
		NO	842732	SE	8403544	US	4796369
		DE	3424674				
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